College Document # COAS025
UCC Document # _____
Date Received _____

CATALOG YEAR _2006-2007_____
(Please use separate form for each add/change)

COLLEGE/SCHOOL : __Arts and Sciences_____

Current Catalog Page(s) Affected _____

Course: Add: _X___ Delete: _____
(check all that apply) Change: Number ____ Title _____ SCH _____
Description _____ Prerequisite _____

If new, provide Course Prefix, Number, Title, SCH Value, Description, prerequisite, and lecture/lab hours if applicable. If in current catalog, copy and paste the text from the and indicate changes in red.

MATH 4341 *Numerical Analysis II.* Three semester hours (FL)
Finite difference methods and finite element methods for elliptic, parabolic and hyperbolic equations. Prerequisite: MATH 4340 and MATH 4350.

Justification: This course is a continuation of MATH 4340 and will prepare students in classical methods in numerical analysis for partial differential equations.

Program: Add: _____ Change: _____ Attach new/changed Program of Study description and 4-year plan. If in current catalog, copy and paste the text from the and indicate changes in red.

Minor: Add: _____Delete: _____ Change: _____ Attach new/changed minor.
If in current catalog, copy and paste the text from the and indicate changes in red.

Faculty: Add: _____ Delete: _____ Change: _____ Attach new/changed faculty entry.
If in current catalog, copy and paste the text from the and indicate changes in red.
College Introductory Pages: Add information: _____ Change information: _____
Attach new/changed information. If in current catalog, copy and paste the text from the and indicate changes in red.

Approvals:	Signature	Date
Chair Department Curriculum Committee	Eduardo Chappa Digitally signed by Eduardo Chappa DN: CN = Eduardo Chappa, C = US, O = TAMIU, OU = Department of Mathematical and Physical Sciences Reason: I am approving this document Date: 2005.10.27 16:22:58 -05'00'	10/27/2005
Chair Department	Chen-Han Sung, Ph.D. Digitally signed by Chen-Han Sung, Ph.D. DN: CN = Chen-Han Sung, Ph.D., C = US Reason: I am approving this document Date: 2005.10.28 14:59:01 -05'00'	10/28/2005
Chair College Curriculum Committee	Neal McReynolds Digitally signed by Neal McReynolds DN: CN = Neal McReynolds, C = US, O = TAMIU, OU = Department of Biology and Chemistry Date: 2005.11.10 16:18:04 -06'00'	
Dean	Dr. Nasser Momayezi - Dean Digitally signed by Dr. Nasser Momayezi - Dean DN: CN = Dr. Nasser Momayezi - Dean, C = US, O = Texas A&M International University, OU = C.O.A.S. - Dean's Office Reason: I have reviewed this document Date: 2005.11.11 08:04:26 -06'00'	

TEXAS A&M INTERNATIONAL UNIVERSITY
SPRING 2006

MATH 4341 – NUMERICAL ANALYSIS II

SECTION: 001
ROOM: LBV 209
MEETING DAYS: T Th
MEETING HOURS: ???-???

INSTRUCTOR: ??? ???
PHONE: (956) 326-????
EMAIL: ???@tamiu.edu
OFFICE: CH 313

OFFICE HOURS: M T W Th, 3:00 – 4:30 PM; and by appointment.

TEXT: S. Larsson and V. Thomee, *Partial Differential Equations with Numerical Methods (Texts in Applied Mathematics Vol. 45)*. Springer 2003. ISBN: 3540017720.

PREREQUISITES: Partial Differential Equations (MATH 4350), Numerical Analysis I (MATH 4340), and programming experience in MATLAB.

STUDENTS LEARNING OUTCOMES:

Upon successful completion of the course, the student is expected to demonstrate good knowledge of the core topics of the course, develop proper problem-solving skills at the course level, and have the foundations for more advanced mathematics or mathematics related studies.

COURSE DESCRIPTION AND OBJECTIVES:

This is the second introductory course of the sequence of Numerical Analysis courses (I and II) serving as the foundation of advanced subjects in mathematics, sciences, and engineering. The sequence is designed for students at the upper undergraduate to beginning graduate level.

This course contains an introductory to computational methods for partial differential equations, error and convergence analysis techniques, etc. In particular, finite difference methods (FDM), finite element methods (FEM), and other commonly used numerical methods for partial differential equations are introduced. The computer lab session is an essential component of the course. The course shall equip the student both a theoretical knowledge of the subject and computational experience with it.

ATTENDANCE:

It is the student's responsibility to sign the attendance sheet at each class meeting. Attendance is extremely important for success in this course and will be considered when determining borderline grades. Cellular phones or beepers are not allowed in class.

HOMEWORK AND EXERCISE:

Homework and exercise will be regularly assigned and some will be collected. Late homework will not be accepted. Answer key for homework problems will be provided and explained. Questions and discussions are welcome and encouraged.

COMPUTER PROJECTS:

Computer projects will be regularly assigned and collected. They must be typed neatly and handed in on time to receive full credit. A 25% will be deducted after the due day and no credit after the graded homework/project has been returned.

TESTS AND FINAL EXAM:

There will be two tests. The final exam will be **comprehensive**, which is temporally scheduled on **May 9, 2006** at **LBV 209.**

MAKE-UP POLICIES:

There will be no make-up test or/and final exam. Zero score will be recorded for missed test and final exam.

GRADING POLICY:

Homework – 30 %,	Tests – 20 %,
Projects – 30 %,	Final Exam – 20 %.

A: 90 – 100; B: 80 – 89; C: 70 – 79; D: 60 – 69; F: below 60

50% on the Final Exam is necessary (but not sufficient) for a grade better than C.

IMPORTANT DATES:

January 13, Friday.	First Class Day.
January 16, Monday.	Martin Luther King Holiday; University closed.
January 20, Friday.	Final Late Registration Day.
January 31, Tuesday.	Twelfth Class Day.
March 2, Thursday.	**Test 1.**
March 13-18.	Spring Break; no classes.
April 13, Thursday.	Last day to drop a course or withdraw from the University.
April 14, Friday.	Easter Holiday; no classes; University open.
April 17, Monday.	Registration for Summer and Fall 2006.
April 20, Thursday.	**Test 2.**
May 3, Wednesday.	Last Class Day.
May 4, Thursday.	Reading Day; no classes or examinations.

NOTE:

This syllabus is subject to be changed throughout the semester by the instructor.

DEPARTMENT GUIDELINE

CLASSROOM BEHAVIOR:

The College of Arts and Sciences encourages classroom discussion and academic debate as an essential intellectual activity. It is essential that students learn to express and defend their beliefs, but it is also essential that they learn to listen and respond respectfully to others whose beliefs they may not share. The College will always tolerate diverse, unorthodox, and unpopular points of view, but it will not tolerate condescending or insulting remarks. When students verbally abuse or ridicule and intimidate others whose views they do not agree with, they subvert the free exchange of ideas that should characterize a university classroom. If their actions are deemed by the professor to be disruptive, they will be subject to appropriate disciplinary action, which may include being involuntarily withdrawn from the class.

COPYRIGHT RESTRICTIONS:

The Copyright Act of 1976 grants to copyright owners the exclusive right to reproduce their works and distribute copies of their work. Works that receive copyright protection include published works such as a textbook. Copying a textbook without permission from the owner of the copyright may constitute copyright infringement. Civil and criminal penalties may be assessed for copyright infringement. Civil penalties include damages up to $100,000; criminal penalties include a fine up to $250,000 and imprisonment.

PLAGIARISM AND CHEATING:

Should a faculty member discover that a student has committed plagiarism, the student will receive a grade of **F** in that course and the matter will be referred to the Executive Director of Student Life for possible disciplinary action.

STUDENTS WITH DISABILITIES:

Texas A&M International University seeks to provide reasonable accommodations for all qualified persons with disabilities. This University will adhere to all applicable federal, state, and local laws, regulations and guidelines with respect to providing reasonable accommodations as required to afford equal education opportunity. It is the student's responsibility to register with the Director of Student Counseling and to contact the faculty member in a timely fashion to arrange for suitable accommodations.

INCOMPLETES:

Incompletes are discouraged and are assigned only under extenuating circumstances. In fairness to those students who complete the course as scheduled, under no circumstances will an Incomplete ("I") be changed to an "A" unless the student has experienced a death in the immediate family or has a (credible) written medical excuse from a physician.

STUDENT RESPONSIBILITY FOR DROPPING A COURSE:

It is the responsibility of the STUDENT to drop the course before the drop date. Faculty is not responsible for dropping students who suspend class attendance.

STUDENT E-MAIL ADDRESS:

All students must obtain a TAMIU e-mail address.